

ABSTRACT OF THE DISCLOSURE

An improved cathode assembly, including a filament for producing an electron stream having a highly uniform cross sectional density. The cathode assembly comprises a support base, a cathode cup affixed to the support base, and a filament disposed in a slot defined on the bottom face of the cup. In one embodiment, the side walls of the slot are shaped so as to allow greater electric field penetration about regions of the filament that typically produce relatively low quantities of electrons, thereby increasing electron emission therefrom. Other embodiments are directed to modifying either the filament winding configuration or the wire from which the filament is formed, in order to equalize electron production by the filament. The uniformly dense electron stream is preferably directed toward the anode of an x-ray tube, thereby producing a superior x-ray beam for a variety of applications.

NEW BLANK PATENT

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